

AMENDMENTS TO THE SPECIFICATION

In the Abstract:

A Method of Maintaining Data

Consistency in a Loose Transaction Model

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ABSTRACT

A method, an apparatus, a system, a computer program product, and a computer program are disclosed for maintaining consistency of object content (252) and metadata (204) related to the object (252) in a loose transaction model, preferably using SQL Mediated Object Manipulation (SMOM), for object and meta-data updates. The related meta-data (204) and a reference to the object (252) are stored in a table of a database. The object is stored externally to the database in an object store. The reference is used to obtain a handle for directly accessing or manipulating the external object. A version number embedded in the handle is then obtained. The embedded version number is then compared with a version number of a latest committed version of the externally stored object to determine if the handle refers to a current version of the externally stored object. Next, the last modification timestamp of the file is compared with the last modification timestamp of the latest committed version, in order to detect uncommitted updates. A mismatch indicates that stale data is being referenced, and in that situation an appropriate error is returned.